(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 29 December 2004 (29,12,2004)

PCT

(10) International Publication Number WO 2004/114227 A1

(51) International Patent Classification⁷: G06K 7/00, 19/07

G07C 9/00,

(21) International Application Number:

PCT/IB2004/050933

(22) International Filing Date: 17 Ju

17 June 2004 (17.06.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

03101873.2

25 June 2003 (25.06.2003) EP

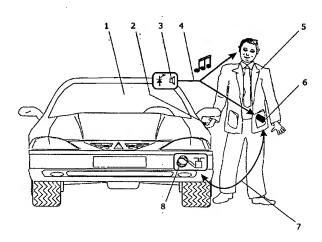
- (71) Applicant (for DE only): PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE]; Steindamm 94, 20099 Hamburg (DE).
- (71) Applicant (for AE, AG, AL, AM, AT, AU, AZ, BA, BB, BE, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CY, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, SZ, TJ, TM, TN, TR, TT, TZ, UA, UG,

UZ, VC, VN, YU, ZA, ZM, ZW only): KONINKLIJKE PHILIPS ELECTRONICS N. V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): RIEMSCHNEI-DER, Karl-Ragmar [DE/DE]; c/o Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE). ROEHM, Horst [DE/DE]; c/o Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE). WENDT, Matthias [DE/DE]; c/o Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE). DÜRBAUM, Thomas [DE/DE]; c/o Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE). HILGERS, Achim [DE/DE]; c/o Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE). PIETIG, Rainer [DE/DE]; c/o Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE). PELZER, Heiko [DE/DE]; c/o Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE).
- (74) Agent: VOLMER, Georg; Philips Intellectual Property &, Standards GmbH Weisshausstr. 2, 52066 Aachen (DE).

[Continued on next page]

(54) Title: METHOD AND ARRANGEMENTS FOR INCREASING THE SECURITY OF TRANSPONDER SYSTEMS, PARTICULARLY FOR ACCESS TO AUTOMOBILES



(57) Abstract: It is proposed that passive wireless transponder systems used in the context of procedures for access identification be provided with signaling that can be perceived by human beings. This also makes it possible to detect that a relay attack, which is difficult to prevent, is being carried out. Attention is also drawn to other types of manipulative interference with the communication and to certain problems with the high-frequency transmission. By the employment of comparatively inexpensive and highly reliable means, this near-simultaneous perception of an identifying process for access purposes produces a very effective reduction in such threats to the security of the system. Other simple measures may have an advantageous effect in connection therewith. The signaling may also assist an ergonomic process. For example, an automobile entry or access system that is not specifically actuated, referred to as a passive keyless entry system, may be improved.

WO 2004/114227 A1

- T DETT BENEGET IN DERTY SLEEN BEEK BEEK BEEK BEEK FELD IN DE HER KEN BEEKE KEN VERLEGERING DE HEN GERALD DE HE
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.